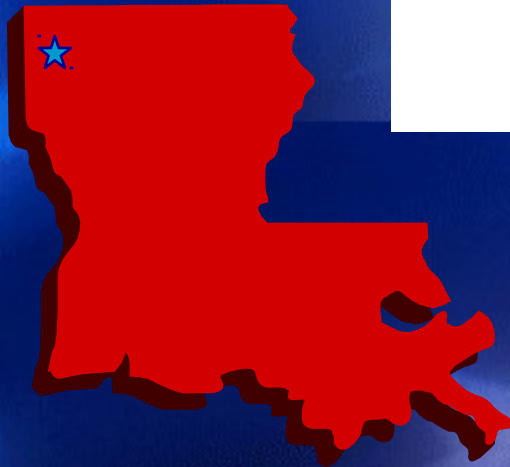


STEM Crisis and the Mission of STARBASE

STARBASE®

LOUISIANA



**Sponsored by
307th Bomb Wing Air Force Reserve
Barksdale Air Force Base Louisiana**



is a national program, funded and supported by the Office of the Assistant Secretary of Defense for Reserve Affairs (OASD-RA).

Mission of STARBASE

To raise the interest and improve the knowledge and skills of youth in science, technology, engineering, and mathematics (*STEM*) by exposing them to the technological environment and the positive role models found on military bases and installations.

Critical Issues

Leadership

“The United States views itself as a leader in an increasingly global economy, and its prowess in science and mathematics is essential to that leadership.”

Competition

“Science and technology are driving rapid change. . . the training of the next generation will be a key factor in how successful a country will be in the future.”

R. Bybee & E. Stage. “No Country Left Behind.” *Issues in Science and Technology*, Winter, 2005. <http://issues.org/21.2/bybee.html> retrieved 10 Oct 2007 and www.rpi.edu/homepage/quietcrisis/ps111505-nacme.html

Critical Issues

Vitality

“Of the 20 fastest growing occupations projected through 2010, the U.S. Bureau of Labor Statistics concludes that 15 of them will require substantial

math or science

Security

“DoD is the largest employer of scientifically trained professionals and practitioners. Currently over 50% of U. S. graduates in STEM fields are foreign nationals who cannot get the

***SPIE, The International Society of Optical Engineering. *K-12 STEM ED Report Card*, 2006.**

**** OASD-RA, *DoD STARBASE: An Issue of National Importance*, 2007. (White paper prepared and presented to members of U.S. House and Senate)**



STARBASE Timeline - A History of

Success
June 1999 - STARBASE Louisiana graduates pilot class

- **June 2000** - First full year of service
- **January 2006** - National Recognition - Alan Shepard Technology in Education Award presented by the Astronauts Memorial Foundation, The Space Foundation, and NASA
- **August 2006** - Cooperative agreement with Bossier Parish expands program impact to serve 2 classes daily and over 1400 annually
- **Present Day** - Expansion made possible through cooperative efforts of 307BW and 2BW. Now serving

STARBASE Program

Features

Hands-on, minds-on exploration

Relevant STEM curriculum

Based on National Standards

Leading-edge technology

Motivation

Character development

Role Model

Excellence

Academy Characteristics

- 5 day program

- Certified teachers and military volunteers

- 25 hour STEM-based curriculum

- Targets underrepresented students

- Emphasis on 5th grade

STARBASE Core Curriculum

Physics

- **Newton's Laws of Motion**
- **Fluid Mechanics and Aerodynamics**

Chemistry Sciences

- **Building Blocks of Matter**
- **Physical and Chemical Changes**
- **Atmospheric Properties**

Mathematics Operations and Applications

- **Numbers and Number Relationships**
- **Measurement**
- **Geometry**
- **Data Analysis**

Technology

- **Innovations**
- **Navigation and Mapping**

Engineering

- **Engineering Design Process**
- **3-D Computer-Aided Design**

STEM Careers

- **STEM Careers on Military Facilities**
- **Personal Investigations**

Other Site-based Elements

**Career Mentors and Guest
Speakers**

**Tours and Briefings using Local
Resources**

**Curriculum-Based Service Learning
Projects**

Personal

Accountability

Achievement Recognition

Teacher Training and Preserve Mentorship

Program Partners

Military

Schools

Community

**Sponsorship
Resources
Services
Volunteers
Mentors**

**Students
Teachers to
Assist
Lunches
Transportation**

**Parent
Support
Volunteers
Donations
(501c3)
Mentors**

**307th Bomb
Wing Air Force
Reserve
2nd Bomb Wing**

**Bossier
Schools
Caddo
Schools**

**Bossier
Chamber of
Commerce
Studio
Graphics**

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